

gouge, hollowing it out to increase its depth. The two cartilaginous pieces with the muscular insertions are then fixed on the head with a few catgut sutures, and all is ligated to the capsule. A sort of bridge is thus formed above the head to give it support. The capsule is sutured with catgut, leaving open only a small orifice for a thread-like drain. The skin is sutured with horse hair. A large T-shaped plaster bandage grasps the pelvis with its horizontal branch, and winding around the lower limb down to the middle of the calf holds the thigh in abduction. Extension with five pounds of weight and counter-extension by raising the legs of the bed is employed.

The temperature rose on this evening to 38° C., on the following evening to 39° C., but it soon fell. The dressing was left in its place for about three weeks; the wound cicatrized.

The movements are free; the great trochanter is on a level with Nélaton's line. The retraction is equal to $2\frac{1}{2}$ cm.—*i. e.*, just the difference of real length between the two limbs.

Traction is continued with a weight of four pounds, massages every day; also more and more extended movements. The child still walked on crutches when she left the hospital. A year afterward lordosis had disappeared, but there remained a certain degree of scoliosis. The measurement of the two lower limbs gave a difference of a little less than 3 cm.; that of the different segments of the lower limb showed nearly 1.8 cm. against the limb operated on.—*Bulletin et Memoires de la Société de Chirurgie de Paris*, February, 1893.

SAMUEL LLOYD (New York).

GYNÆCOLOGICAL.

I. Symphysiotomy at the Clinique Baudelocque. By A. PINARD, M.D. (Paris). In a clinical lecture, reported in English by Dr. J. B. Henderson, the author reviews his experience with symphysiotomy during the year 1892. Thirteen cases were subjected to operation by him and his assistants as follows:

Number.	Age.	Previous Labors.	Measurements.	Early History of Present Labor.	Operation and Result.	Fetus.
1	32	1	Pelvis canalicular, promonto-subpubic diameter, 9.7 cm.	Hydrannios, large mobile fetus; expulsion impossible.	Spontaneous separation after symphysiotomy of 1 cm.; extraction by the feet—head by Champetier's method—effected in fifty-five minutes. Parts sutured and fixed by a plaster dressing. Patient rose on twenty-first day, and made a complete recovery.	Weight over 7 lbs.; apparently dead, but resuscitated; died on third day from meningeal hemorrhage.
2		0	Pelvis flattened.	In labor for twelve hours; forceps unavailing; presentation vertex in left transverse diameter.	Symphysiotomy (nineteen minutes) gave separation of 1 cm., increasing on separation of thighs to 3 cm. Forceps extracted easily in four minutes, the separation of the pubes reaching 6.1 cm. Rose on thirty-third day, and made complete recovery.	Weight over 10 lbs.; occipito-mental diameter, 14.3 cm.; occipito-frontal, 12.7 cm.; suboccipito-bregmatic, 10 cm.; suboccipito-frontal, 11.3 cm.; biparietal, 9.3 cm.; bitemporal, 8.7 cm. Child living a year later.
3	30	3	Pelvis annular. Promonto-subpubic diameter, 9 cm.	Presentation vertex first. Application of forceps unavailing.	Spontaneous separation after symphysiotomy (seven minutes) of 1 cm., increased by abduction of thighs to 4.8 cm. Forceps withdrew the fetus with a separation of 6.5 cm. Union by first intention; rose on twenty-ninth day, and recovery perfect.	Weight over 5 lbs.; occipito-mental, 12.7 cm.; occipito-frontal, 11.8 cm.; suboccipito-bregmatic, 10.4 cm.; suboccipito-frontal, 10.6 cm.; biparietal, 9.7 cm.; bitemporal, 7.9 cm.; submento-bregmatic, 9.5 cm. Apparently dead, but revived and now well.
4	26	3	Pelvis rachitic, annular. Promonto-subpubic diameter, 9.8 cm.	First labor terminated by embryotomy, and second and third induced at 8 months. Presentation vertex first.	Spontaneous separation after symphysiotomy of 3 cm. Forceps easily withdrew fetus with not more than 1 cm. increase of separation. Union by first intention; abscess of left labium minus; rose on twenty-sixth day, and made a perfect recovery.	Weight about 4½ lbs.; occipito-mental diameter, 15.4 cm.; occipito-frontal, 11.1 cm.; suboccipito-bregmatic, 9.3 cm.; suboccipito-frontal, 9.8 cm.; biparietal, 8.2 cm.; bitemporal, 7.5 cm. Died from infection after two days.

Number.	Age.	Previous Labors.	Measurements.	Early History of Present Labor.	Operation and Result.	Fetus.
5	38	5	Pelvis annular. Promonto-subpubic diameter, 9.3 cm.	First confinement required basiotripsy; second and third induced prematurely; fourth and fifth, miscarriages. Presentation, vertex first.	Spontaneous separation after symphysiotomy of 2.5 cm. Child readily extracted with a separation of 4.5 cm. Union by first intention; rose on sixteenth day. Nursed the child. Cure complete.	Healthy child; weight, over 6 lbs. Occipito-mental diameter, 13.2 cm.; occipito-frontal, 11.5 cm.; suboccipito-bregmatic, 10 cm.; suboccipito-frontal, 10 cm.; biparietal, 9.1 cm.; bitemporal, 8.2 cm.
6	32	0	Pelvis generally contracted. Promonto-subpubic diameter, 9 cm.	Operation determined by palpation, measurement and exploration. Presentation, vertex first; labor induced.	Spontaneous separation after symphysiotomy (three minutes) of 3.5 cm. Easy extraction with increase to 6.2 cm. Union by first intention; rose on twentieth day. Cure complete.	Healthy child; weight over 5 lbs. Occipito-mental diameter, 13 cm.; occipito-frontal, 11 cm.; suboccipito-bregmatic, 10 cm.; suboccipito-frontal, 10.3 cm.; biparietal, 9.4 cm.; bitemporal, 8.2 cm.
7	23	0	Pelvis annular. Promonto-subpubic diameter, 10.4 cm. Height, 4 ft. 8 in.	Operation determined by palpation. Presentation, vertex first; labor induced.	Spontaneous separation after symphysiotomy (seven minutes) of 1 cm. Rather difficult extraction, forceps applied twice, with increase to 5 cm. Union by first intention; rose on twenty-fourth day. Cure complete.	Healthy child; weight over 7 lbs. Occipito-mental diameter, 13 cm.; occipito-frontal, 12.2 cm.; suboccipito-bregmatic, 11 cm.; suboccipito-frontal, 12 cm.; biparietal, 10 cm.; bitemporal, 9 cm.
8	26	1	Pelvis annular. Promonto-subpubic diameter, 9.7 cm.	Labor and forceps ineffectual.	Spontaneous separation after symphysiotomy by Dr. Lepage (thirteen minutes) of 26 mm. Easy forceps extraction with increase to 5 cm. Union by first intention. Recovery complicated by abscess of right labium majus; rose on thirtieth day. Cure complete.	Apparently dead; child resuscitated; weight nearly 9 lbs. Occipito-mental diameter, 13.1 cm.; occipito-frontal, 11.5 cm.; suboccipito-bregmatic, 9.8 cm.; suboccipito-frontal, 11.3 cm.; biparietal, 9.5 cm.; bitemporal, 8.7 cm.

9	1	Pelvis rachitic, angular. Promonto-subpubic diameter, 9.2 cm.	Former labor ended with basiotripsy; shoulder presentation, arm prolapsed. Operation determined by previous history.	Symphysiotomy by Dr. Varnier permitted separation of 3.5 cm. on abduction of thighs. Easy forceps extraction, with increase to 7 cm. Union by first intention, although a tear had been induced from vagina to symphysis. Rose on nineteenth day. Cure complete.	Healthy child; weight over 7 lbs. Occipito-mental diameter, 12.5 cm.; suboccipito-bregmatic, 9.8 cm.; suboccipito-frontal, 11.4 cm.; biparietal, 9.5 cm.; bitemporal, 8.5 cm.
10	25	Pelvis flat. Promonto-subpubic diameter, 10 cm.	Former labor complicated with twins and eclampsia. Presentation, vertex first. Forceps ineffectual.	Spontaneous separation after symphysiotomy (12 minutes) of 3 cm. Easy forceps extraction with increase to 4 cm. Union by first intention; rose on nineteenth day. Cure complete.	Healthy child; weight 7 lbs. Suboccipito-bregmatic diameter, 9.3 cm.; suboccipito-frontal, 10.6 cm.; biparietal, 9 cm.; bitemporal, 7.8 cm.
11	28	Pelvis rachitic, angular. Promonto-subpubic diameter, 10.6 cm.	Presentation, vertex first. Forceps ineffectual.	Spontaneous separation after symphysiotomy (12 minutes) of 3 cm. Easy forceps extraction with increase to 5.8 cm. Union by first intention; rose on twenty-third day. Cure complete.	Healthy child; weight over 8 lbs. Occipito-mental diameter, 13.6 cm.; occipito-frontal, 11 cm.; suboccipito-bregmatic, 10.3 cm.; suboccipito-frontal, 11.5 cm.; biparietal, 9.5 cm.; bitemporal, 7.9 cm.
12	1	Pelvis annular. Promonto-subpubic diameter, 10.5 cm.	Presentation, vertex first. Fetus large, forceps ineffectual.	Spontaneous separation after symphysiotomy by Dr. Wallich of 2.5 cm. on abduction of the thighs. First application of forceps slipped, the cord being prolapsed. Extraction on second application, with separation of 4.5 cm. Union by first intention; rose on the nineteenth day, but was seized with phlegmasia alba dolens, from which she still suffers.	Child apparently dead, but resuscitated. Weight, 8 lbs. Occipito-mental diameter, 13.5 cm.; occipito-frontal, 12.3 cm.; suboccipito-bregmatic, 10.4 cm.; suboccipito-frontal, 11.4 cm.; biparietal, 9.5 cm.; bitemporal, 7.5 cm.
13	38	Pelvis "rachitic, angular. Promonto-subpubic diameter, 9.7 cm.	Cephalotripsy at previous labor. Presentation breech transverse, formed by external version into occipito-iliac, right transverse.	Spontaneous separation after symphysiotomy by Dr. Polocki (nine minutes) of 3 cm. Forceps extracted fetus easily, increasing the separation to 5.7 cm. Union by first intention; rose on twenty-second day; still under observation.	Child apparently dead, but resuscitated, dying the next day. Weight over 7 lbs. Occipito-mental diameter, 13.6 cm.; occipito-frontal, 11.2 cm.; suboccipito-frontal, 10.7 cm.; biparietal, 9.5 cm.; bitemporal, 8.4 cm.

In each of the foregoing cases the only evidence of the operation is a small cicatrix, scarcely visible, in the middle of the pubic region ; the pelvis is as firm as before the operation, and there is no trouble in micturating or in standing. The result as regards the fœtus is equally encouraging, ten out of the thirteen surviving, and those lost dying from causes not incident to the operation.

The method of operating formulated as a result of the experience tabulated above, is as follows : All antiseptic precautions having been taken, and the surgical and obstetrical instruments prepared, the woman should be placed on her back near the side of a firm bed of moderate height, so that the median line, where the incision is to be made, may be commanded directly from above. It is best to stand between the thighs. An incision should be made in the median line (and exactly in this line) of the integuments and the prepubic tissue about 8 cm. long, stopping above the clitoris. The recti, in the upper part of the incision and immediately above the symphysis, should be separated in order to allow the index finger to penetrate into the prevesical cavity and protect the bladder. This finger not only protects the bladder, but it frees the pad of the symphyses—but not always, for this is often so very slightly prominent that it cannot be appreciated—and thus renders the section easy ; as soon as the bistoury has penetrated into the symphysis, it is this finger on which its blunt point strikes, and that keeps a record of its progress down to the last fibres of the subpubic ligament. The finger being thus in the prevesical cavity, the symphysis must be incised from above downward, and from before backward, by many touches of the bistoury, allowing the latter to penetrate where it finds the least resistance. Immediately after cutting the symphysis, a complete section of the subpubic ligament should be made ; for this section the precaution must be taken of introducing a sound into the urethra, so as to incline the latter down to the side ; then the ligament must be attacked with caution by small cuts, as if cutting it fibre by fibre. The finger shows the progress accomplished, and, as a general rule, when the finger finds that only a few fibres remain like a small resisting cord, this cord breaks, and the spontaneous separation, which

had been only a few millimetres, suddenly increases to two or three centimetres. Careful abduction of the thighs will induce a further separation. The author insists that to insure the safety of the foetus this separation must increase to at least four centimetres, and has had a registering separator made for the purpose by Collin, the instrument maker. He absolutely rejects subcutaneous section from below upward and from behind forward, as well as incomplete section.

With regard to the obstetrical phase of the operation, he considers a vertex presentation the preferable. The application of forceps should be exact. The hand should be thoroughly introduced, so as to place the first blade in the middle of the preauricular region; if the head is not flexed, it should first be flexed with the hand. This being done, the other blade should be introduced without moving the first blade or the head. He emphasizes the necessity for an equal application of the forceps on a flexed head. After section of the symphysis he prefers not to trust to uterine contractions to expel the foetus, but to intervene promptly, and also not to delay the removal of the placenta more than a quarter of an hour. Immediately after delivery he washes out the uterus; when the water returns clear and the womb is well contracted, he introduces into the vagina iodoform gauze. After this he cleans the wound with a sponge and a 5-per-cent. carbolic solution, and proceeds to suture the soft parts. The symphyses being brought together into closer contact, he places four deep silver sutures—which touch the anterior surface of the pubis—and four superficial ones, and then covers the wound with iodoform and iodoform gauze. Then the legs being brought together and held in position by a bandage, the woman is placed in a special bed, which, by means of two lateral and concave cushions, enables the pelvic bones to be kept in constant apposition. Where this bed is not obtainable simple apposition of the legs with a well-applied trunk bandage very firm in the pelvic region, or a plaster bandage, would be sufficient. The sutures should be removed on the eighth day, and then the patient can turn in bed easily and without pain. He does not think it prudent for patients to get up until about the twentieth day.

The operation requires but few instruments: a firm and fine short-bladed bistoury and a probe-pointed bistoury are absolutely sufficient, but he recommends also a registering separator and a chain-saw, the latter for use in case of ankyloses. However, he states that in sections of 100 aged cadavers he never found ankylosis. He thinks it unwise to allow the separation to go beyond 7 cm., not so much from fear of producing lesions in the region of the sacro-iliac synchondrosis, as to avoid lesion of the soft parts in the region of the vulva, vagina and bladder.

He considers symphysiotomy destined to occupy a foremost place among obstetrical operations, and believes that it will entirely banish embryotomy or foetal murder. The Cæsarean operation, followed or not by amputation of the uterus and ovaries, will become more and more rare; indications will be found only in the happily not very numerous cases of uterine and other tumors filling the pelvic cavity—although experience has shown symphysiotomy to be adapted to certain cases of this kind. In subjects of contracted pelves, the Cæsarean section ought only to be recognized in cases of absolute necessity. It is not so easy to decide in a given case between symphysiotomy and the induction of premature labor with the application of forceps; it will at least prevent the induction of labor too prematurely. It will also render unnecessary all forcible applications of the forceps, with their coincident evil effects upon the mother and child.

It exercises a beneficial effect in nearly all cases of pelvic contraction, such as those simply small or flattened, those contracted by rickets—without contraction at the pelvic entrance—and pelves contracted at the outlet, the latter gaining more from symphysiotomy than when the entrance is affected. In a symmetrical pelvis, and especially those obliquely oval with synostosis of one sacro-iliac symphysis, symphysiotomy loses one-half or all of its advantages, but the author remarks that in a case of this kind he has successfully performed ischio-pubiotomy, an operation devised by Faraboeuf, —London *Lancet*, February 18, 1893.

JAMES E. PILCHER (U. S. Army).